

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION

5 Entitled : A BOTTOM-TO-SURFACE CONNECTION DEVICE
 INCLUDING A LEAKTIGHT FLEXIBLE JOINT BETWEEN
 A RISER AND A FLOAT

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ABSTRACT OF THE DISCLOSURE

20 The present invention relates to a bottom-to-surface
 connection device comprising at least one undersea pipe
 or riser capable of including a single float, said float
 being connected at its bottom end to a junction device
 creating a leaktight flexible joint between the bottom
25 end of the float and said riser, wherein said junction
 device is interposed between and secured to a bottom
 portion of the riser going down to the sea bottom and a
 top portion of the riser passing through said float and
 rising to the surface, said junction device comprising at
30 least one first laminated abutment in the form of a body
 of revolution having a plurality of elastomer layers
 defining surfaces of revolution that are frustoconical in
 shape or ellipsoidal in section.

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A BOTTOM-TO-SURFACE CONNECTION DEVICE INCLUDING A
LEAKTIGHT FLEXIBLE JOINT BETWEEN A RISER AND A FLOAT

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The present invention relates to a bottom-to-surface connection device comprising at least one undersea pipe or riser (1, 1a-1b) capable of including a single float (2, 2₁-2₇), said float being connected at its bottom end to a junction device (8) creating a leaktight flexible joint between the bottom end of the float (2) and said riser (1a), the connection device being characterized in that said junction device (8) is interposed between and secured to a bottom portion (1a) of the riser going down to the sea bottom and a top portion of the riser passing through said float and rising to the surface, said junction device (8) comprising at least one first laminated abutment in the form of a body of revolution having a plurality of elastomer layers defining surfaces of revolution that are frustoconical in shape or ellipsoidal in section.

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35 Translation of the title and the abstract as published by the PCT Authorities,
possibly after making changes, ex officio, e.g. under PCT Rules 37.2, 38.2, and/or
48.3.